

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 26 December 2003. It is noted, however, that applicant has not filed a certified copy of the JP 2003-432411 application as required by 35 U.S.C. 119(b).

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore:
- a. The drive means incorporated into an accessory type of casing of claim 1+ claim 3 must be shown or the feature(s) canceled from the claim(s).
 - b. The convex surface of claim 6 must be shown or the feature(s) canceled from the claim(s).

No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The disclosure is objected to because of the following informalities:
 - a. Page 1 of the specification lists JP 2003-348208 as 'Patent document 1' though no indication of its relevance has been made, and it was not listed in the IDS, nor was a copy submitted for review.
 - b. Pages 6-9 of the specification refer to Figs. 1(a) and 1(b); however the drawings only have Fig. 1 labeled.Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 1, 3, 5, 6-8, and 10-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 5-8, and 10-20, the claims are drawn to a 'bone-conduction speaker' initially, and a 'unit case' later. The claims are not clear if they are meant to be the same, or otherwise incorporated with each other.

Regarding claim 3, the phrase 'said cell phone' does not have antecedent basis in either claim 3, or claim 1. For the purposes of the art rejection below, 'said cell phone' will be interpreted as 'a cell phone'.

Regarding claim 3, the phrase 'like portions' renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by 'like portions'), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 7, 9-12 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo (US Patent 5,883,966 ('966)) in view of Teshima et al. (US PGPub 2003/0112993 A1 ('993)).

Regarding claim 1, Kubo teaches a portable telephone (acoustic apparatus; '966 title) using a speaker ('966 #18) comprising: a casing part (outer casing; '966 #12a), in which a speaker ('966 #18) is incorporated; a speaker casing (unit case; '966 #16) mounted in said casing part (outer casing; '966 #18) through a rubber ring (support

means; '966 Fig. 3 #22); a drive means ('966 Fig. 5 #38) for displacing said speaker casing (unit case; '966 #16) in said casing part (outer casing; '966 #12a), said coil spring (drive means; '966 #38) being disposed in said casing part (outer casing; '966 Fig. 5); an air chamber (opening; '966 #20) formed in said casing part (outer casing; '966 #16) in a manner such that said speaker casing (unit case; '966 #16) is permitted to expose its side-head abutting surface to the outside ('966 Fig. 5), wherein said coil spring (drive means; '966 #38) is so operated as to bring said casing part (outer casing; '966 #12a) in or out of contact with said casing part (outer casing; '966 #16).

Kubo does not teach the speaker being a bone-conduction speaker.

In the same field of endeavor, Teshima teaches a speaker to conduct sound through a user's bones (bone-conduction speaker; '993 [0075] lines 1-4) for the benefit of providing sound to a user in a public space.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the telephone speaker as taught by Kubo to make it a bone-conduction speaker for the benefit of providing sound to a user in a public space.

Regarding claim 2, Kubo and Teshima remain as applied above.

Kubo further teaches the telephone is a portable telephone (outer casing is constructed of a casing of a cell phone; '966 col. 1 lines 7-8).

Regarding claim 3, Kubo and Teshima remain as applied above.

A user placing a cell phone (an accessory type) of Kubo in view of Teshima in a breast pocket of a shirt or jacket would constitute 'an outer casing being constructed of an accessory which type is capable of being attached to a user's breast portion'. Further, a cell phone placed in the breast pocket of a user is inherently capable of communicating with another cell phone.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to place the bone conduction speaker and cell phone as taught by the combination of Kubo and Teshima in a breast pocket of a user for the benefit of keeping the phone in contact with a user's body for effective call notification.

Regarding claim 4, Kubo and Teshima remain as applied above.

Neither Kubo, nor Teshima explicitly teach a communication means being constructed of a wireless communication means.

A cell phone capable of communicating with another cell phone as taught by the combination of Kubo and Teshima inherently requires the communication to be of a wireless nature, in order to fit the definition of a 'cell phone.'

Regarding claim 5, Kubo and Teshima remain as applied above.

Kubo further illustrates that the speaker casing is caused to recede back into the air chamber (said unit case is always kept in contact with the outer casing; '966 Fig. 4) when the portable phone is closed (when said unit case is on standby).

Regarding claim 7, Kubo and Teshima remain as applied above.

Kubo further teaches the coil spring (drive means) moves back and forth in a manner such that said abutting surface of said speaker casing (unit case) projects outside through said opening of said outer casing when said drive means moves forth ('966 Fig. 5).

Regarding claim 9, Kubo and Teshima remain as applied above.

Kubo further teaches the rubber ring (support means; '966 Fig. 3 #22) is constructed of an elastic member fixedly mounted on an inner surface of said outer casing ('966 Fig. 3).

Regarding claim 10, see rejection of claim 5 above.

Regarding claim 11, see rejection of claim 5 above.

Regarding claim 12, see rejection of claim 5 above.

Regarding claim 17, see rejection of claim 7 above.

Regarding claim 18, see rejection of claim 7 above.

Regarding claim 19, see rejection of claim 7 above.

Regarding claim 20, see rejection of claim 7 above.

7. Claims 6 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo (US Patent 5,883,966 ('966)) in view of Teshima et al. (US PGPub

2003/0112993 A1 ('993)) as applied to claims 1-5 above, and further in view of Lee et al. (US PGPub 2006/0262954 ('954)).

Regarding claim 6, Kubo and Teshima remain as applied above.

Neither Kubo nor Teshima teach said unit case takes a convex shape, an upper surface of which shape serves as said abutting surface to project outside through said opening of said outer casing.

In the same field of endeavor, Lee teaches the protruding portion of the bone conduction speaker is convex shaped (said unit case takes a convex shape; '954 Fig. 1 at #18), an upper surface of which shape serves as said abutting surface ('954 Fig. 4) to project outside through said opening of said outer casing for the benefit of providing a more comfortable and uniform connection between the speaker and a bone of a user.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the protruding portion of the bone conduction speaker as taught by the combination of Kubo and Teshima with the convex abutting portion as taught by Lee for the benefit of providing a more comfortable and uniform connection between the speaker and a bone of a user.

Regarding claim 13, see rejection of claim 6 above.

Regarding claim 14, see rejection of claim 6 above.

Regarding claim 15, see rejection of claim 6 above.

Regarding claim 16, see rejection of claim 6 above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Takagi et al. (US Patent 5,197,091) teaches a portable phone with an extendable microphone incorporating an antenna therein.
- b. Fukumoto et al. (US Patent 6,912,287) teaches a communication device incorporated into a wristband and ring.
- c. Chung et al. (US PGPub 2002/0061115) teaches a vibration speaker.
- d. Hareng et al. (US PGPub 2005/0014534) teaches a wireless accessory for notification of an incoming call.
- e. Fukuda (US PGPub 2005/0176459) teaches a portable telephone with bone conduction speaker.
- f. Mori et al. (US PGPub 2006/0113932) teaches a vibrator unit for a portable telephone also functioning as a bone conduction speaker.
- g. Fukuda (US PGPub 2006/0286998) teaches a portable telephone using bone conduction device, which contacts the cell phone case when the cell phone is closed.
- h. Feil (WO 02/054425) teaches a speaker used as a button which includes a support and drive means.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSE A. ELBIN whose telephone number is (571)270-3710. The examiner can normally be reached on Monday through Friday, 8:00am to 5:00pm EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. A. E./
Examiner, Art Unit 2615

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